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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/088,924	03/19/2002	Alan Benn	743-P-3-USA	2680

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Drummond & Duckworth  
Suite 500  
4590 MacArthur Boulevard  
Newport Beach, CA 92660

EXAMINER

UPRETI, ASHUTOSH

ART UNIT PAPER NUMBER

2623

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/088,924	<b>Applicant(s)</b> BENN, ALAN	
	<b>Examiner</b> Ashutosh Upreti	<b>Art Unit</b> 2623	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6, 7, 14 and 15 is/are rejected.
- 7) ☒ Claim(s) 5-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |  |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>03/19/02</u> . | 6) <input type="checkbox"/> Other: ____  |

## **DETAILED ACTION**

### ***Claim Objections***

Claim 12 is objected to because of the following informalities:

On line 3 of claim 12, "[" is ungrammatical (deleting this character would cure this problem).

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Benn (U.S. Patent 5,793,879) in view of Hayes (U.S. Patent 4,745,472).

As to claim 1, Benn discloses providing an image capture means (column 4, line 5) for capturing image data related to an animal carcass (column 4, line 12). Benn also discloses processing image data so as to automatically identify predetermined anatomical points of the carcass (column 7, line 16 starts a section that describes many steps for automatically locating the rib eye muscle, which is an anatomical point. Locating the rib eye is also mentioned in column 7, lines 44-45. Column 12, lines 59-60 disclose that another anatomical point – a region of fat - next to the rib eye muscle is

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also located automatically using the method described in column 12 on lines 62-63.

Therefore, multiple anatomical points are automatically located). Benn also discloses

deriving dimensional measurement for the carcass by using the anatomical points

identified (column 11, lines 44-46 which talks about measurements relating to the rib

eye area and column 13 line 66-column 14 line 2, which talks about dimensional

measurement and calibration with regard to the rib section). Benn also discloses

deriving at least one characterizing parameter related to fatness of the carcass (column

11 lines 42-44 show that equations and calculations are used to determine fatness.

One of ordinary skill in the art would know that when there are equations relating to

such calculations, then there will also be parameters relating to the calculation. In

addition column 12 lines 14-15 disclose a parameter 'G' which is related to fatness) by

processing color data included in the captured image data in conjunction with the

derived dimensional measurements (as mentioned above, both color data and

dimensional measurements are being used in the system to determine fatness), the

color data processed being the color data for at least one predetermined selected

surface area of the carcass known or determined to have significant correlation to the

characterizing parameter related to fatness (as mentioned above, the rib eye section

and the area next to it, for which color data is processed, are predetermined to be

related to fatness – see column 11 lines 27-29 and column 12 lines 58-61).

Benn does not expressly disclose presenting an animal carcass to the image capture means, the carcass positioned with the dorsal view of the carcass presented

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directly to the image capture means. Also not expressly disclosed is capturing image data for the dorsal view of the carcass by the image capture means.

Hayes discloses presenting an animal carcass (column 8, line 12 – here Hayes discloses that either an animal or an animal carcass can be viewed) to the image capture means (column 2, line 48), the carcass positioned with the dorsal view of the carcass presented directly to the image capture means (column 2, lines 62-63 – the top profile here is the same as a dorsal view). Also disclosed is capturing image data for the dorsal view of the carcass by the image capture means (column 2, lines 47-50).

It would have been obvious to a person of ordinary skill in the art to obtain a dorsal view of a carcass as in Hayes for analyzing image for fatness as in Benn as they both deal with capturing images of animal carcasses.

Imaging the dorsal view of the carcass would enable such a system to be employed to analyze sheep carcasses without hindering processing as, unlike common practice with cattle, sheep are transported in an abattoir, in a manner that the dorsal view can be easily imaged, thus providing motivation.

As to claim 2, Benn does not expressly disclose that the predetermined anatomical points of the carcass include points selected from a head point, two elbows, two hips, two hips, two outer leg points and a groin point.

Hayes discloses that the predetermined points of the carcass include two hips (column 8, lines 33-35). Here the width of the hips is measured, which means the two hip points must be known by the computer imaging system doing the calculation.

It would have been obvious to a person of ordinary skill in the art to identify the hip points as in Hayes when identifying anatomical points in Benn as they both deal with the analysis of animal carcass images. Knowing the hip points would enable the hip width to be measured, enabling the size of the animal to be taken into account in fatness calculations, thus providing motivation.

As to claim 3, Hayes further discloses that dimensional measurements derived from the carcass include linear distances between the two hip points (column 8, lines 33-35).

As to claim 4, Benn further discloses the dimensional measurements of the carcass being true distances (column 11 line 45 – one of ordinary skill would know that measuring something using arbitrary units and then converting it to true distances geometrical formulae or transformations, has the same effect as measuring it in true distance units in the first place. Additionally, when something in an image is measured by a computer, formulae and transformations are applied within the computers own operations to determine a true distance). Also disclosed is compensating for perspective or foreshortening effects of the captured image of the carcass (column 13 line 66-column 14 line 3) whereby dimensional descriptors used in standardized manual carcass grading systems are determined for the carcass (column 6, lines 32-33, here the AUSMEAT systems are used in describing the carcass). The limitation regarding

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dorsal view of the carcass is discussed in the rejection of claim 1 and is rejected for the same reasons here.

As to claim 6, Benn further discloses measuring the average RGB values representing red, green and blue color components within said at least one predetermined selected surface area (column 13, lines 3-5).

As to claim 7, Benn further discloses that the RGB values are intensity normalized color values substantially independent of light intensity (column 14, lines 6-9).

As to claim 14, the limitations of the claim are rejected for the same reasons as described in the rejection of claim 1.

As to claim 15, Benn further discloses that the image capture means includes lighting means for illuminating the regions of the carcass (column 5, lines 38-42) in the region of the spine of the carcass where said at least one predetermined selected surface area of the carcass are located (column 5, lines 45 and 49 – here the selected surface area of the rib eye section is lit and mention is also made of the region of the spine (vertebrae in this case) being lit), the lighting means being positioned adjacent or distributed around the camera of the image capture means (column 5, lines 35-38 – here it is clear that the lamp and camera lens are within the same general vicinity) and directed generally towards the dorsal aspect of the carcass presented (here the lighting

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is directed to the area of interest (the rib eye section) but as described in the rejection for claim 1, Hayes discloses that the area of interest can be the dorsal area, in which case, a skilled artisan would know to illuminate the dorsal area).

***Allowable Subject Matter***

Claims 5 and 8-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claim 5, identifying the tail in an image of an ovine animal by identifying its lateral edges, determining the width of the tail between the lateral edges and using this width in the prediction of carcass yield is not disclosed in the prior art.

As to claim 8, automatically positioning the multiple surface areas relative to the predetermined anatomical points, which generally coincide with the chump, loin and shoulder areas of the carcass is not disclosed in the prior art.

As to claim 11, analyzing the rate of change of RGB values in a line profile across the image of a carcass transverse to the longitudinal line of the spine and using the rate of change in predicting fatness, is not disclosed in the prior art.

As to claim 12, performing statistical analyses of multiple carcasses to provide correlations between average RGB values of said predetermined selected surface areas and carcass fatness as part of the process for analyzing an animal carcass, is not disclosed in the prior art.



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As to claim 13, it depends from claim 12, which contains allowable subject matter.


***Contact Details***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ashutosh Upreti whose telephone number is (703) 306 4087. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A.U.  
March 31, 2005

  
Jon Chang  
Primary Examiner